

Date: Mon, 22 Nov 93 04:30:37 PST  
From: Ham-Digital Mailing List and Newsgroup <ham-digital@ucsd.edu>  
Errors-To: Ham-Digital-Errors@UCSD.Edu  
Reply-To: Ham-Digital@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Digital Digest V93 #116  
To: Ham-Digital

Ham-Digital Digest                      Mon, 22 Nov 93                      Volume 93 : Issue 116

Today's Topics:

                    How to detect 2400bps 4DPSK?  
                    Max BAUD on 6M AM & FM (3 msgs)  
                    Portable Packet Station with a HP 95LX ???  
                    TCP/IP, Packet, RTTY, etc on Sun Sparcstation...Suggestions?  
                    wb7tpy gateway (4 msgs)

Send Replies or notes for publication to: <Ham-Digital@UCSD.Edu>  
Send subscription requests to: <Ham-Digital-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Digital Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-digital".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: 21 Nov 93 14:04:04 GMT  
From: ogicse!emory!kd4nc!ke4zv!gary@network.ucsd.edu  
Subject: How to detect 2400bps 4DPSK?  
To: ham-digital@ucsd.edu

In article <1993Nov20.023628.9192@frc.maf.govt.nz> wk@frc.maf.govt.nz (Wilbert  
Knol) writes:

>I was wondering if some Knowledgeable Person on the Net could point me  
>in the right direction. The HT I use with 2400 bps (terrestrial PSK)  
>packet has a very slow squelch, and I have attempted to build a  
>carrier detection circuit so as to run the radio unsquelched. This  
>should cure the problem of loosing the first part of a packet.

>Rather than trying to re-invent the wheel, I was wondering how this is  
>done in commercial PSK packet modems. Any pointers appreciated.

You've been taking the wrong approach. Simply install a TAPR state  
machine DCD circuit in your TNC and you can run open radio squelch

without problems. This circuit sets DCD active only when it encounters state transitions corresponding to a valid frame, including the flags transmitted during the TxD period at the head of a frame. TAPR has state machine kits for all the popular TNCs.

Gary

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Gary Coffman KE4ZV	Where my job's going,	gatech!wa4mei!ke4zv!gary
Destructive Testing Systems	I don't know. It might	uunet!rsiatl!ke4zv!gary
534 Shannon Way	wind up in Mexico.	emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244	-NAFTA Blues	

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Date: 21 Nov 93 13:57:28 GMT  
From: ogicse!emory!kd4nc!ke4zv!gary@network.ucsd.edu  
Subject: Max BAUD on 6M AM & FM  
To: ham-digital@ucsd.edu

In article <CGt9JM.5v9@fms.com> andrews@fms.com (Andrew Sargent N80FS) writes:

>

>I thought this question could easily be answerd by Pt 97, WRONG!

>

>I need to know, what is the maximum baud rate (AX.37 packet) using  
>either AM \_or\_ FM on 6 meters???

Here's what Part 97 has to say about data transmission on 6 meters.

#quote

97.307f(5)

A RTTY, data or multiplexed emission using a specified digital code listed in 97.309(a) of this Part may be transmitted. The symbol rate must not exceed 19.6 kilobauds. A RTTY, data or multiplexed emission using an unspecified emission using an unspecified digital code under the limitations listed in 97.309(b) of this Part also may be transmitted. The authorized bandwidth is 20 kHz.

#end quote

So you're limited to 19.6 kb \*and\* a maximum bandwidth of 20 kHz. The latter is the real limit for simple modulation encodings such as FSK, or AFSK over AM or FM radios. With current amateur techniques, that's a limit of 2400 baud for AM or FM. The PSK scheme used in 9600 baud modems would fit the bandwidth using SSB radios, and MSK would permit 16.6 kilobaud. No presently used amateur technique can squeeze 19.6 kilobaud into 20 kHz.

NOTE: For the more complex modulations, baud != bps. You can encode more than one bit with a single baud, thus achieving higher effective bps transfers. 38.4 kbps should be possible with amateur grade techniques. Compression techniques should increase that even further.

Gary

--

Gary Coffman KE4ZV	Where my job's going,	gatech!wa4mei!ke4zv!gary
Destructive Testing Systems	I don't know. It might	uunet!rsiatl!ke4zv!gary
534 Shannon Way	wind up in Mexico.	emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244	-NAFTA Blues	

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Date: Sat, 20 Nov 1993 22:09:21 GMT  
From: library.ucla.edu!agate!usenet.ins.cwru.edu!skybridge!hernix!  
fmsystem.telemax.com!andrews@network.ucsd.edu  
Subject: Max BAUD on 6M AM & FM  
To: ham-digital@ucsd.edu

Hello all,

I thought this question could easily be answered by Pt 97, WRONG!

I need to know, what is the maximum baud rate (AX.37 packet) using either AM \_or\_ FM on 6 meters???

Figuring A) 6 meters is such a mostly dead hunk of band space & B) the availability of 6 meter 25KHz commercial gear; I would probably be able to do quite a high rate of speed (Zoom!!!) :) :) :)

BTW, I'm trying to set up a 100 mile point to point link...

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Tell Me Something I Don't Know,	! HAM =	N80FS
Show Me Something I Can Use,	! ARMY MARS =	AAN5HJT
Push The Buttons,	! CB =	THE NEON KNIGHT
Connect The God-Damn Dots!!! - Ministry	! HACKER =	TH3 N30N KN16Ht

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Date: 21 Nov 93 19:50:47 GMT  
From: concert!news-feed-2.peachnet.edu!gatech!bloom-beacon.mit.edu!noc.near.net!  
news.delphi.com!BIX.com!arog@decwrl.dec.com  
Subject: Max BAUD on 6M AM & FM  
To: ham-digital@ucsd.edu

gary@ke4zv.atl.ga.us (Gary Coffman) writes:

[stuff cut]

>#quote

>97.307f(5)

>A RTTY, data or multiplexed emission using a specified digital code  
>listed in 97.309(a) of this Part may be transmitted. The symbol rate  
>must not exceed 19.6 kilobauds. A RTTY, data or multiplexed emission  
>using an unspecified emission using an unspecified digital code under  
>the limitations listed in 97.309(b) of this Part also may be transmitted.  
>The authorized bandwidth is 20 kHz.

>#end quote

[more stuff cut to end]

Taken another way, by the rule.of.thumb that the sum of  
twice the deveation plus twice the highest modulating freq  
is the occupied bandwidth, five kc dev in a twenty kc  
channel allows the highest significant modulation to  
be six kc for FM. For AM, its just twice the modulating  
freq, of course.

Now, how high a bps rate can be fit in six kc ?

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Date: Sun, 21 Nov 1993 18:18:43 GMT

From: haven.umd.edu!darwin.sura.net!convex!cnn.exu.ericsson.se!chacma!

lmcifpl@ames.arpa

Subject: Portable Packet Station with a HP 95LX ???

To: ham-digital@ucsd.edu

I reckon that this is the best place for the following query.

I have a 512 kb HP 95LX (palmtop) and will soon become the owner of a  
FT-530 HT. I'm curious about packet and am wondering if any one out there  
has managed to connect these elements with a TNC (and ??) to creat a  
portable packet station, for this is what I'd like to achieve.

What TNC would be recommended? What software is required? What else would  
I need? (And any other questions that a newbie should ask)

My first preference would be for a TNC that is small (cigarette box size)  
battery powered. Second preference would be something that could be carried  
EASILY and set up in seconds in office/apartemnt etc. The memory requirements

of the software should be low (the 95LX is not powerhouse!).

Thanks, 73 DE Fergal

Standard Disclaimer

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Date: 21 Nov 1993 11:59:57 +0200  
From: library.ucla.edu!europa.eng.gtefsd.com!howland.reston.ans.net!pipex!sunic!  
news.funet.fi!klaava!klaava!not-for-mail@network.ucsd.edu  
Subject: TCP/IP, Packet, RTTY, etc on Sun Sparcstation...Suggestions?  
To: ham-digital@ucsd.edu

I'm looking for software/hardware solutions to get onto the digital modes using a Sun Sparcstation. Assuming I'll be using a multimode controller, I'm trying to locate software for working TCP/IP (or NOS), RTTY, AMTOR, Packet, etc. Of course, "straight" packet can be done with a just a terminal emulator, but I'm hoping to find some more talented software.

Particulary, does there exist a version of KA9Q/NOS for SunOS?

Any help will be greatly appreciated. Thanks in advance,

////////////////////////////////////  
Patrick M. Stickler OH2LUV, KC4YYY The comments contained herein  
WSOY - Information Systems Division do not necessarily reflect the  
Helsinki, FINLAND (psti@wsoy.fi) official views of my employer.  
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Date: 21 Nov 1993 10:05:30 GMT  
From: olivea!korie!sh.wide!wnoc-kyo!daemun.rcac!reseau!kenji@decwrl.dec.com  
Subject: wb7tpy gateway  
To: ham-digital@ucsd.edu

In article <2cijnvhINNlfa@network.ucsd.edu> brian@nothing.ucsd.edu (Brian Kantor) writes:

|Is there really anyone in the world who doesn't know that the USA is  
|on the continent of North America? Then why is the .NA required?  
|Stupid software?

Stupid people and software, maybe.

Including routing information into mail address will not work and should be abandoned immediately.

// Kenji

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Kenji Rikitake <kenji@k2r.or.jp> <kenji@rcac.astem.or.jp> (More available!)  
Persuade me you may, but I won't be persuaded. -- Aristophanes

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Date: 21 Nov 1993 10:24:04 GMT  
From: olivea!korie!sh.wide!wnoc-kyo!daemon.rcac!reseau!kenji@decwrl.dec.com  
Subject: wb7tpy gateway  
To: ham-digital@ucsd.edu

In article <XZiaDc2w165w@aznet.stat.com> dan@aznet.stat.com (Daniel J. Meredith)  
writes:

|The packet side, WERE NOT TALKING INTERNET HERE!

While I accept above claim, I insist both addressing schemes are quite  
confusing. I think packet radio side must compromise, considering the  
number of people using the addressing scheme. (In fact, some people  
are happily using Internet domain naming system for packet radio.)

|You're sure going to have a hard time shooting everyone on the West Coast..  
|None of us use NOAM and probably never will...

I'd rather suggest to use something LOGICAL - .rlinet or .mblnet? :)

|NA is what it has been and is still expected to be for some time...

Making NA to NA.MBLNET or something else will completely solve the problem.

// Kenji

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Kenji Rikitake <kenji@k2r.or.jp> <kenji@rcac.astem.or.jp> (More available!)  
Persuade me you may, but I won't be persuaded. -- Aristophanes

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Date: 21 Nov 1993 10:12:57 GMT  
From: olivea!korie!sh.wide!wnoc-kyo!daemon.rcac!reseau!kenji@decwrl.dec.com  
Subject: wb7tpy gateway  
To: ham-digital@ucsd.edu

In article <N0Z5cc1w165w@aznet.stat.com> dan@aznet.stat.com (Daniel J. Meredith)  
writes:

|Kenji!

| Your jumping the gun before you know the info! that address is for the  
| packet side of things. The correct address is " gate@wb7tpy.ampr.org "  
| If you don't know the facts, why say anything!

Dan, I am not blaming your service - what I'm complaining at is the  
existence of people who are confusing 'packet side' and 'Internet  
side.' I'm saying that packet side of people should quit using such a  
confusing addressing scheme.

What I'm saying is that ham radio people should:

- \* Stop using addressing schemes which are easily mixed up with each other
- \* Stop saying RLI/MBL addresses as "Internet" addresses -  
all Internet-joining organization should accept the naming rule which IANA  
(Internet Assigned Name Authority) defines

| Dan N7MRP -- WB7TPY's Ax.25 Supplier

// Kenji Rikitake, kenji@jj1bdx.ampr.org

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Kenji Rikitake <kenji@k2r.or.jp> <kenji@rcac.astem.or.jp> (More available!)  
Persuade me you may, but I won't be persuaded. -- Aristophanes

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Date: 16 Nov 1993 11:02:41 GMT  
From: korie1!sh.wide!wnoc-kyo!daemon.rcac!reseau!kenji@ames.arpa  
Subject: wb7tpy gateway  
To: ham-digital@ucsd.edu

In article <cowart.753383276@neptune> cowart@convex.com (Michael Cowart) writes:  
| however, today I tried to send one to another ham, and the local mailer daemon  
| can't find "gate@wb7tpy.az.usa.na"

NEVER USE HAM RADIO PACKET DOMAIN ADDRESS ON THE INTERNET, PLEASE.  
Note especially for North American stations: .NA is assigned to  
Namibia, which does not have enough bandwidth to accept error mail  
messages.

I strongly urge RLI/MBL/whatever BBS systems to use a pseudo domain  
for themselves, and to QUIT using something quite confusing  
IMMEDIATELY.

// Kenji

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Kenji Rikitake <kenji@k2r.or.jp> <kenji@rcac.astem.or.jp> (More available!)  
Persuade me you may, but I won't be persuaded. -- Aristophanes

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End of Ham-Digital Digest V93 #116

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